

## Abstract

~~The invention is a system for providing virtual connections through an ATM interworking multiplexer on a call-by-call basis. A signaling processor receives signaling for a call and selects the virtual connection for the call. The signaling processor generates control messages that identify the selection and transfers the control messages to the ATM interworking multiplexer that accepted the access connection for the call. The multiplexer converts user information from the access connection into ATM cells for transmission over the virtual connection in accord with the control messages.~~

A communication system comprises a signaling processor configured to receive telecommunication signaling for calls, and responsively on a call-by-call basis, select routing information based on the telecommunication signaling and transfer control messages indicating the routing information. The communication system comprises a communication unit configured to receive the control messages and user communications for the calls, and responsively on the call-by-call basis, convert the user communications from a first communication format into a second communication format having headers that include the routing information selected by the signaling processor and transfer the user communications in the second communication format.

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